

[FIG. 2]

120: PANEL CONTROL UNIT
125: OPERATING PANEL
130: READING CONTROL UNIT
131: A/D CONVERTER
135: CCD IMAGE SENSOR
140: IMAGE PROCESSING UNIT
145: DATA ABNORMALITY DETECTING UNIT
150: MEMORY CONTROL UNIT
160: COMMUNICATION CONTROL UNIT
161: CODEC UNIT
165: MODEM
170: RECORDING CONTROL UNIT
175: RECORDING UNIT

[FIG. 3]

136: PHOTODIODE
137: ANALOG SHIFT REGISTER
138: SHIFT GATE
139: AMP

[FIG. 4]

155a: IMAGE DATA STORAGE AREA
155b: DETERMINATION VALUE STORAGE AREA
155c: WORK AREA

[FIG. 5]

PIXEL DATA
SELECT SIGNAL
UPDATE DATA
STORED MINIMUM VALUE
UPDATE TIMING SIGNAL
READ-OUT MINIMUM DATA
141a: COMPARATOR
141b: SELECTOR
141c: MINIMUM VALUE REGISTER

[FIG. 6]

PIXEL DATA
SELECT SIGNAL
UPDATE DATA
STORED MAXIMUM VALUE
UPDATE TIMING SIGNAL
READ-OUT MAXIMUM DATA
142a: COMPARATOR

142b: SELECTOR
142c: MAXIMUM VALUE REGISTER

[FIG. 7]

IMAGE PROCESSING
131: A/D CONVERTER
135: CCD IMAGE SENSOR
145: DATA ABNORMALITY DETECTING UNIT
161: CODEC
165: MODEM
175: RECORDING UNIT
210: BLACK LEVEL CORRECTION
220: SHADING CORRECTION
230: VARIOUS KINDS OF IMAGE PROCESSING
240: BINARIZATION
250: DATA ABNORMALITY ANNOUNCING UNIT (ALARM MESSAGE OR THE LIKE)

[FIG. 8]

START
S11: SET VARIOUS INITIAL VALUES.
S12: START READING OF ONE PAGE.
S13: UPDATE STORAGE VALUES OF MAXIMUM VALUE REGISTER AND MINIMUM VALUE REGISTER.
S15: COMPLETION OF PAGE READING
S16: (VALUE OF MAXIMUM VALUE REGISTER) < (BLACK DETERMINATION VALUE) ?
S17: GIVE ALL-BLACK ALARM.
S18: SHOULD TRANSMISSION BE CANCELED?
S20: TERMINATION
S21: SHOULD ORIGINAL BE READ AGAIN AFTER CHANGING SETTINGS TO REDUCE DENSITY?
S22: CANCELLATION OF TRANSMISSION
S23: CHANGE BINARIZATION THRESHOLD VALUE, WHITE DETERMINATION VALUE, AND BLACK DETERMINATION VALUE.
S25: (VALUE OF MINIMUM VALUE REGISTER) > (WHITE DETERMINATION VALUE) ?
S26: NORMAL TERMINATION
S27: GIVE ALL-WHITE ALARM.
S28: SHOULD TRANSMISSION BE CANCELED?
S30: TERMINATION
S31: SHOULD ORIGINAL BE READ AGAIN AFTER CHANGING SETTINGS TO REDUCE DENSITY?
S32: CANCELLATION OF TRANSMISSION
S33: CHANGE BINARIZATION THRESHOLD VALUE, WHITE DETERMINATION VALUE, AND BLACK DETERMINATION VALUE.

[FIG. 9, 10, 11]

(WHITE)

WHITE DETERMINATION VALUE

BINARIZATION THRESHOLD VALUE

BLACK DETERMINATION VALUE

(BLACK)

F: MAXIMUM VALUE

G: MINIMUM VALUE

H: BINARIZATION RESULT

[FIG. 12]

START

S51: SET VARIOUS INITIAL VALUES.

S52: START READING OF ONE PAGE.

S53: UPDATE STORAGE VALUES OF MAXIMUM VALUE REGISTER AND MINIMUM VALUE REGISTER.

S55: COMPLETION OF PAGE READING

S56: { (VALUE OF MAXIMUM VALUE REGISTER) - (VALUE OF MINIMUM VALUE REGISTER) } < (AMPLITUDE DETERMINATION VALUE) ?

S57: NORMAL TERMINATION

S58: GIVE ABNORMALITY ALARM.

S60: SHOULD TRANSMISSION BE CANCELED?

S61: TERMINATION

S62: CANCELLATION OF TRANSMISSION

[FIG. 13, 14]

A: (WHITE)

B: BINARIZATION THRESHOLD VALUE

C: (BLACK)

D: MAXIMUM VALUE

E: MINIMUM VALUE

F: BINARIZATION RESULT

[FIG. 15]

1-LINE/1-OUTPUT DEVICE

EFFECTIVE READING RANGE

[FIG. 16]

1-LINE/3-OUTPUT DEVICE

EFFECTIVE READING RANGE

[FIG. 17]

3-LINE/3-OUTPUT DEVICE